Docket No.: G0365.0354/P354

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Alan Taylor

Application No.: 10/089,722

Art Unit: 1711

Filed: April 4, 2002

Examiner: Thao T. Tran

For: COATING MATERIAL

DECLARATION OF ALAN TAYLOR

ALAN TAYLOR declares that

1. I am the applicant in the above identified application.

2. The work described in Exhibit A attached hereto were actually done by or for me and gave the results set forth thereon.

3. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of title 18 of the united states code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: 7 October 2004

Alan Taylor

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Exhibit A

Two compositionally identical solutions, solutions 181a and 181b, were made. Each solution had an R(A) value of 0.83. Solution 181a was made using separate hydrolysis steps for the tetraethyl orthosilicate (TEOS) and 3-(trimethoxy silyl)propyl methacrylate (MPTMA) components, while solution 181b was carried out with the TEOS and MPTMA being mixed and hydrolysed together.

The compositions and procedures were as follows:

For Solution 181a

Part A
120.6g of TEOS
107.5g methylated spirit
20.7g of distilled water
0.3g of hydrochloric acid

Part B
29.1g of MPTMA
21.5g of methylated spirit
3.2g of water
0.2g of hydrochloric acid

The water, methylated spirit and acid mixtures for parts A and B were made up separately. These mixtures were then added to the TEOS and MPTMA respectively. After one hour of stirring in a sealed container at room temperature, part B was added to part A. After 24 hours of stirring, a further 23.9g of distilled water was added. One hour later, 2.9g of Akcros resin 260GP25 (an aliphatic urethane acrylate) was added followed by 0.2g of photoinitiator Irgacure 184 from Ciba Speciality Chemicals.

For Solution 181b
120.2g of TEOS
29.0g of MPTMA
131.1g of methylated spirit
22.8g of distilled water
0.5g of hydrochloric acid

The water, methylated spirit and acid were mixed together before being added to a mixture of the TEOS and MPTMA. After approximately 24 hours of stirring in a sealed vessel at room temperature, a further 23.7g of distilled water was added. After one further hour of stirring, 2.9g of resin 260GP25 was added followed by 0.2g of the photoinitiator.

After both solutions had been left to age for approximately one week they were deposited by flow coating on to polycarbonate plaques and cured using UV light. After curing under identical conditions the coating resulting from solution 181a was clear, colourless, glassy to the touch and hard. This coating resisted damage when a fingernail was drawn aggressively across it. However, while the coating resulting from solution 181b was also clear and colourless, it had a more "tacky" feel to it and was readily damaged when a fingernail was drawn across it.